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ABSTRACT

In order to determine the reasons for attrition in individualized courses, completion rates and instructional styles for an individualized communications skills course were examined, beginning with a class group in fall 1969 where 80.55% completed the course and continuing with an open lab concept through winter, spring, and summer 1970, when completion ranged from 60% to 66.9%. The open lab allowed the student freedom to work whenever he chose and to consult with any instructor available. To further test this variable, an experiment was established in which a group class was offered in summer 1971, an open lab format was used in fall 1971, and a group class was offered again in winter 1972. Completion rates were respectively 60%, 66.19%, and 80.95%, a highly significant difference. Three factors contributing to persistence in the class group were identified: specific time assignments for instruction and laboratory use, regular association with a consistent peer group, and regular contact with a given instructor. Additionally, it was concluded that the group class provided the student a simulation of the world of work by requiring (1) responsibility for a regular time commitment, (2) the ability to work independently in an inter-dependent group situation, and (3) an on-going relationship with a supervisor. (RT)

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INDIVIDUALIZED INSTRUCTION AND ATTRITION--

A NEED FOR RETHINKING STRATEGIES

by

Doris Weddington

JC 780 002.

Central Piedmont Community College, 1972

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INTRODUCTION

Individualized instruction may be the "coming thing" in education these days, but in scores of community college classrooms across the country it is no longer the "look of the future"--it has become the reality of the present. At any gathering of community college faculty now, you are sure to hear from the platform and in the hallways serious and excited talk about individualizing instruction. Those of us who were among the earlier vanguard, developing individualized programs as much as four or five years ago, are no longer the "strange ones"; we find fellow laborers all over the country experimenting and finding their own solutions to our common problems in the individualization of instruction. Educators in community colleges are beginning to see the full implications of this challenging notion for the "last chance" student who comes to us looking for his own personal miracle. Through individualized instruction, more and more instructors now are finding themselves able to make this student's educational dream come true.

THE PROBLEM

But it would be less than honest to ignore the fact that, while individualized instruction shows promise of solving some of our major problems, it has also brought with it some problems of its own. Instructors who have adopted the individualized format are finding that an alarming number of students do not complete the courses they

have started--I don't mean within the quarter or the semester; I mean ever (or at least not yet). The opportunity for the student to "move at his own best learning pace" is too often taken by the student to mean that he may move (or not move) at the pace that suits his whim and in keeping with his relatively underdeveloped sense of responsibility.

Instructors have prepared materials which enable every student to learn; yet the lack of commitment on the part of the students is taking a heavy toll on the morale of students and instructors alike. The instructor who has prepared a good individualized course has invested in his program untold hours of his time and the very best of his professional expertise. He has produced on tapes his best lessons, on slides his best demonstrations, and on paper the best learning units he knows how to write. All of this he has done with the expectation that, with these tools in hand, now he will be able to give each student what he needs whenever that student is ready for it. All will learn; none will be left behind. The students will be grateful for this opportunity; success rates will go up; and all the effort will have been worthwhile. Yet, somehow, this great expectation seems to be falling short of full fruition as able students drift away and drop out in the face of unprecedented opportunity for success.

At a National Conference on Individualized Instruction at Mitchell College (April, 1971) instructors, all of whom had individualized at least one course of study, gathered to share reactions--successes, problems, and reservations. This was "after the fact" analysis--not a workshop for beginners, but a gathering of those who had been on the front lines from one to five years. The consensus was very strong--students now were achieving course objectives who, without a doubt,

would have been left behind in the traditional classroom. Individualized instruction does, in fact, make success available to virtually every student.

There was just as strong a consensus that too many students were failing to assume the responsibility they must assume if individualized instruction is ever to reach its potential success rate. Even the most imaginative programs were having problems with attrition. Students who show genuine interest in the work when they are active, who report that they like to learn this way, like the intructor, like everything about the course, still manage to procrastinate until they become bored, irritated with themselves, with the course, and with the instructor. Finally, they simply disappear.

I left the conference at Mitchell determined to evaluate our own individualized instruction project in an effort to draw conclusions concerning the causes of this problem and any possible solutions.

THE STUDY

In the conversations at Mitchell there was a tendency to define "individualized instruction" as INSTRUCTION PREPARED AND PRESENTED IN SUCH A WAY THAT THE STUDENT MAY BEGIN AT HIS OWN LEVEL OF PROFICIENCY AND PROGRESS AT HIS OWN BEST LEARNING RATE TO THE ACHIEVEMENT OF STATED OBJECTIVES, working independently at any time and (where possible) at any place he may desire, reporting to an instructor (or an aide) at certain designated points in the sequence or when he wants to talk about a problem. It is my contention that the first part of this definition is all that is required for a course to qualify as fully "individualized." The investigation I have conducted tends to show that it is the second (underlined) portion of this definition that is giving us trouble.

At the time we began this study (April, 1971), our individualized communications skills program for vocational students at Central Piedmont was in its seventh quarter of continuous operation. And we were experiencing the same attrition problems reported by most of the participants at the conference.

An examination of our records showed that in Fall 1969, our project's first quarter of operation, we had seen 80.55% of our vocational students complete their one quarter communications course with a grade of C or better. Comparing this to 61.9% who succeeded during Fall 1968, we had felt very good about the effectiveness of our new method. But further examination of the records revealed that no quarter since that time had a success record better than 69.39%. There was no record of a single student who was unable to make satisfactory progress in the course. The picture was one of irregular and sporadic activity on the part of the student and finally his complete disappearance, usually without any word at all as to the cause.

My first reaction, of course, was to suspect that the Hawthorne effect might account for the initial success and subsequent falling off in results. But before accepting this easy solution, I decided to do a thorough analysis of all changes we had made in the course since its inception.

Our records showed that, in the three quarters immediately following the successful Fall 1969, we had undertaken experimentation which involved major changes in sequencing and content of the course. These changes were so basic as to introduce serious doubt as to whether this was, in fact, the same course which had been taught in the initial fall quarter. The decision was made to eliminate data from these

three quarters (Winter, Spring, Summer, 1970) from our investigation because of known variables which tended to render that data invalid.

Beginning again with Fall 1970, the course returned to a content and sequence very close to that used in the successful Fall 1969--so close that we felt a valid comparison could be made. Yet, the three quarters, Fall 1970 through Spring 1971, showed completion rates hovering around 64%. The Hawthorne effect remained a real possibility, but we could not feel satisfied that the explanation was this simple. We set out to explore every possible alternative.

Eventually we identified a variable which we believed might be producing a negative effect on student persistence. In Fall 1969, we remembered, individualized instruction had been conducted in class groups. By Fall 1970, in our zeal to make this educational experience ever more accessible to the student, we had opened the lab to all students at all hours. Whichever instructor was present at any given hour assumed responsibility for assisting all students who came in at that hour from one day to the next. We felt that in this way we were approaching an optimum in freedom and flexibility. The opportunity to learn was as wide open as the doors to the lab.

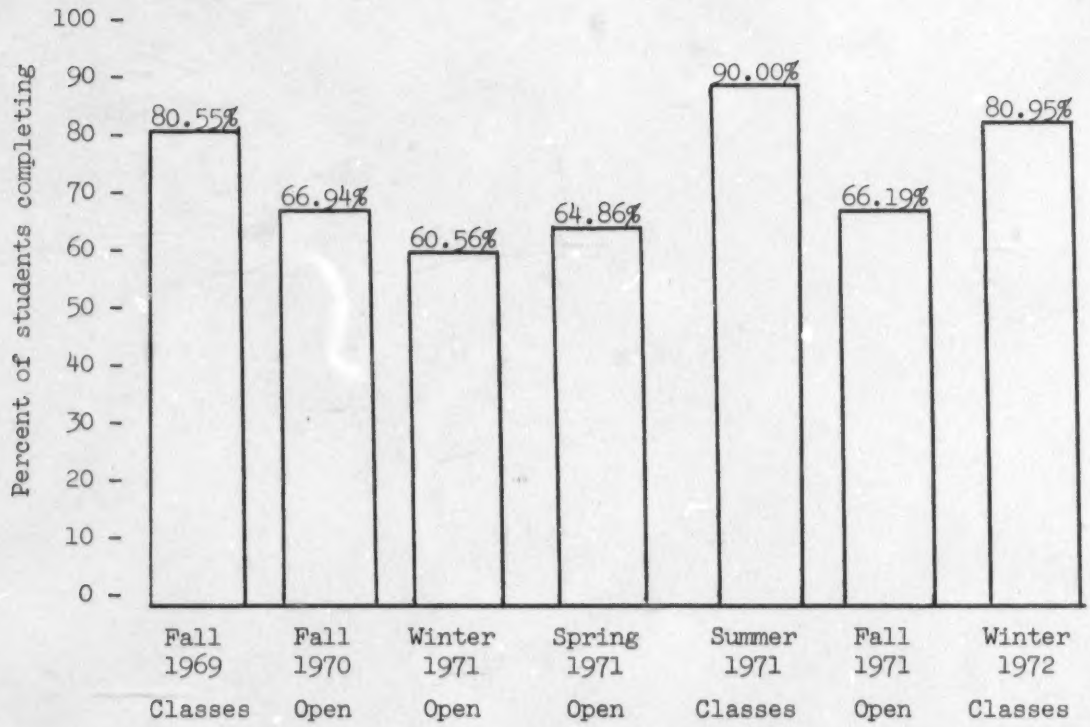
One of my students in his evaluation of the course at the end of Spring Quarter 1971 gave me my first clue that we might have made some fallacious assumptions in deciding to change to the "open lab" format. He wrote, "I completed the course because I had to to graduate. In the future, don't give people permission to come whenever they want to. The course was fun as long as we all came to class together, but when I started coming at different times it got so it wasn't fun any more. I finished and it was OK, but I would have enjoyed it more and would

have got more out of it if we had stayed together as a group." Going on the strength of this comment, I looked up several students who had disappeared--students who had received a grade of I by default rather than because of a need for more time. The reasons were the same.

Hearing these comments, we began to suspect that students may have more tendency to persist when they become a part of an on-going class group than when they are free to come on an "open lab" arrangement. We wanted to know whether we could recapture retention rates of 80% or better if we re-instituted for our students the class hour, the class group, and the single instructor. So in Summer 1971, we did not invite students to come at times other than their assigned class hour (except as they needed additional lab time in order to meet objectives). Regular attendance was urged, attendance records checked daily. The student was clearly expected to be present at the hour he was scheduled. (We did not, of course, enforce attendance by any compulsory or punitive means.) In Fall 1971, we returned for experimental purposes to the "open" format previously employed. Then in Winter 1972, we changed once again--back to the "class group" arrangement.

FINDINGS

The overall history, including the results of the experimental quarters, is shown below. The data tended to confirm the suspicion that our move to the "open lab" format had adversely affected our completion rates.



Statistically this difference in completion rates is significant at the .0001 level. (See Appendix.)

CONCLUSIONS AND INTERPRETATIONS

At this point we were able to conclude that our students have a greater tendency to complete their communications course when they are members of individualized classes than when they have freedom to come and work at any time they may choose from day to day.

We believe there are three factors which account for this greater student persistence. With the individualized class format, the student has (1) specific regular time set aside to do the work necessary for the completion of the course, (2) regular on-going association with a consistent peer group, and (3) regular contact with a given instructor.

All of us know from personal experience that the thing that gets done in our busy existence is the thing for which time is scheduled--

that procrastination is almost inevitable in the absence of some sort of schedule to manage our time commitments. Staffan Burenstam Linder has done a thorough study of the all too familiar problem of allocation of time in modern society. He describes our modern-day "life by the clock." Work, social life, recreation, he says, all become scheduled activities. That which is not on the calendar gets pushed out as new options press upon us forcing the constant reshuffling of priorities.[1]

This is no less true for our students than it is for us. Many of our community college students hold full-time or part-time jobs, have family responsibilities, or are involved in the extremely important social processes of the single young adult. Daily schedules are tightly fitted together; work, school, and recreation are in constant competition for the student's time. Anything not scheduled is as likely to get set aside "temporarily" for the student as it is for the harried executive or the student's own busy instructor.

Administrators and instructors know from experience that the best way to accomplish a time-consuming task is to set aside a definite block of time each day to be devoted to that task. We further know that we are more likely to adhere to such a schedule when the commitment involves other people than when no one else will be directly affected by our deviations from the schedule. At registration time the student is asked to make such a time commitment--a commitment which involves an instructor and other students as well as himself.

The second factor in the "class" situation, which we have identified as influencing persistence, is the student's association with a consistent

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[1]Staffan Burenstam Linder, The Harried Liesure Class, New York: Columbia University Press, 1970, pp. 16-24.

peer group. Alvin Toffler has pointed out in disturbing terms the extent to which modern mobile man is losing his opportunity to function as a member of a group. Just as he must develop an ability to cope with modular homes and transient institutions, he must learn to content himself with comparatively temporary groups to satisfy his gregarious nature.[2]

The community college, even with traditional classes, is already minimizing the student's opportunity to see himself as a part of any school-related group. "School spirit," a direct by-product of group identity, is a universally recognized casualty of the drive-in educational institution. With no dormitories and few active clubs or other organizations, the student comes on campus in time for his class and leaves again immediately after. Many community college students come to us with special needs for acceptance and belonging. For such a student to be deprived even of a class group with whom he can identify is to complete the alienation job society has already begun. It is small wonder that, under these circumstances, this student drifts away from us in final disappointment.

A regularly scheduled individualized instruction class, on the other hand, offers unusual opportunity for the student to become an active participating member of a group. One of our students who was a part of such a "class group" wrote this comment: "This course should be required for all students in the college. Here you learn to work together--to get along with other people." In the traditional class

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[2]Alvin Toffler, Future Shock, New York: Random House, 1970, Chapter 6.

the students may get to know some of their more vocal classmates, but many students remain utter strangers even though they spend hours together in the same room. In the "independent study" format of individualized instruction, there may be no group at all, or students may be brought together for a few sessions of temporary group contact. But in the individualized instruction class the students work together regularly in an informal setting. They learn to deal effectively with individual personalities in a productive work situation. They learn to share materials and equipment, to be patient and courteous when they have to wait their turn, to be helpful when fellow students need assistance--to care about each other as people. This sort of relationship must, of course, be planned for and encouraged by the instructor, but it cannot happen unless there is a group for it to happen to.

The instructor is the third factor we identified in the "class" formula, and his influence can hardly be overestimated. According to Carl Rogers the teacher is probably the one most important influence on students' learning. His article "To Facilitate Learning" appears in an NEA report on Project: Time to Teach. The thrust of this NEA study is identical with the principles underlying the individualized instruction movement. Through the use of media, machines, and other prepared materials, the student can effectively learn independently most of the cognitive things the instructor has traditionally taken up virtually all his time dispensing. Full use of these instructional means, the NEA report concludes, will allow the instructor "time to teach." The instructor becomes a facilitator of learning. Basic to

being an effective facilitator, Rogers says, is that the instructor be "a 'person' to his students, not a faceless embodiment of a curriculum requirement."[3]

Armed with carefully written objectives and effective materials, any instructor competent in his field can adequately evaluate a student's work and direct his progression through successive steps in a prepared sequence. But when this is done for the student by a different instructor from day to day, the instructor tends to become just what Rogers describes: "A faceless embodiment of a curriculum requirement."

In the individualized classroom, on the other hand, the instructor has the ideal opportunity to develop a personal human relationship with each student. The instructor in our communications classes constantly circulates among the students, giving assistance with the work, giving the needed pat on the back, the word of encouragement, a smile and special greeting to the student who has been missing for a day or two. Our instructors (when we have class groups) are known by the students as persons so that a telephone call after a few days' absence is perceived, not as "checking up on me," but rather as a natural expression of personal concern. The student develops respect and loyalty for his instructor. He knows the instructor misses him when he isn't there. He knows that his instructor has confidence in his ability to master each task assigned. In order to meet his instructor's expectations, and because he knows his instructor really cares about him, the student attends more regularly and applies his energies more consistently. As a direct result of his relationship with the instructor, the student

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[3]Carl Rogers, "To Facilitate Learning," in Innovations for Time to Teach, Project: Time to Teach, NEA, 1966.

gains increased confidence in his own personal worth. Whether or not this sort of relationship grows out of the time a student and instructor spend together depends, of course, on the personality, motives, and attitudes of the instructor; but time together in a relaxed, informal setting is prerequisite if we have any hope of seeing this growth take place. The individualized instruction class provides this opportunity.

It is beyond the scope of this writing to attempt to differentiate between the three factors we have presented as to the relative effect of each on student persistence. Derek Nunney and Joseph Hill of Oakland Community College in Michigan have, however, done some very promising work in differentiating these and other factors concerned with students' individual learning styles. Entering students at Oakland are evaluated as to their personal "cognitive styles" and channeled by use of a computerized "cognitive map" into learning situations in which they are most likely to work at optimum competence and gain optimum success in their educational experience. It might be said that Oakland is offering a program which is not only individualized but personalized.[4]

At CPCC we are not prepared at this time to undertake this sort of detailed analysis of each entering student, nor are we prepared to offer such a variety of alternative routes to the achievement of objectives in our many course offerings. I submit, however, that in the individualized instruction class, the instructor has opportunity to personalize instruction--not by computerized analysis, but by reaction (at one and the same time human and professional) to the personality and needs of the individual student. The instructor, for example, very quickly

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[4] Derek Nunney and Joseph Hill, "Personalized Educational Programs," Audiovisual Instruction, February, 1972.

perceives dependence and independence; he very soon knows which students have trouble with printed materials and which are frustrated by listening to tapes. In the communications lab classes, the instructor is able to adjust each individual's learning experiences, choosing alternate learning routes in a personalized way based on his own professional evaluation of the individual student's need.

THE CLASS GROUP: OTHER CONSIDERATIONS

In his analysis of group processes, Joseph Luft says "(Students) cannot learn independence and interdependence by merely reading books or listening to lectures. That comes from working with other people as a supplement to working alone." "The main point to be emphasized here," he continues, "is that group life, per se, is an important reality."[5]

We believe the individualized class in the community college offers the student an effective bridge between the compulsory regimentation of his public school experience and the responsibilities soon to be assumed in his employment situation. On the job, he will be obligated to report at a certain hour (to which he agrees when he accepts the position) in order to carry out certain responsibilities (which are also understood at the time of employment). Each individual in this employment situation will be working on his own independent task (whether it is rebuilding an engine or typing a financial report); at the same time he will be a part of a group of people, each of whom will be working on his own task, each task related to the others by

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[5]Joseph Luft, Group Process, Palo Alto, California: National Press Books, 1970, p. 81.

certain common denominators. While each employee must achieve independently, he must also relate to his fellow workers and together they must be able to function effectively and productively as a group. Finally, there will be a supervisor. If he is a good supervisor, he will inspire the employee to pride in his work and to feelings of loyalty--loyalty to the supervisor, to the group, and to the company.

The parallels between this "on the job" situation and the individualized instruction classroom are direct and obvious. Contrast this with the liassez faire sort of individualized instruction in which the student may work when he pleases, as much as he pleases, be as productive or unproductive as he sees fit, and is taught to expect that his supervisor (instructor) will be forever accepting of whatever meager contribution of his time and energy he may decide to make whenever he decides to make it. "If you ask employers why they won't hire dropouts ... or why they promote certain kinds of people and not others," writes Christopher Jencks, "they seldom complain that dropouts can't read. Instead they complain that dropouts don't get to work on time, can't be counted on to do a careful job, don't get along with others in the plant or office ... and so on."[6]

When we teach our students that time obligations do not exist, that they can choose when and whether to work on course work to which they have committed themselves; when we deprive them of group support and the opportunity to learn personal commitment to individuals and groups, we are doing a disservice not only to the student but to his future employer as well.

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[6]Christopher Jencks, "A Reappraisal of the Most Controversial Educational Document of Our Time," New York Times Magazine, August 10, 1969.

SUMMARY

Evidence shows that individualized instruction provides unprecedented opportunity for students to succeed. Our experience has shown, however, that too few students make full use of this opportunity when their learning situation is of the "independent study" or "open lab" variety. Our individualized program in communications skills shows almost twenty percent more completions (on the average) when students meet regularly in individualized instruction class groups than when they have the freedom of an open lab arrangement.

We believe this difference can be accounted for by three factors: (1) the student has a specific regular time set aside to do the work necessary for the completion of the course, (2) he experiences regular on-going association with a consistent peer group, and (3) he has regular contact with a given instructor. We have suggested reasons why each of these factors may be conducive to student perristence.

We have further shown that the individualized instruction class closely simulates the world of work which vocational and technical students will be entering when they leave the community college, thereby helping the student establish attitudes and patterns of behavior which will be conducive to success in employment situations. Among these are: (1) responsibility for regular time commitment, (2) ability to work independently in an interdependent group situation, and (3) understanding of a relationship with a supervisor.

As a result of our investigation into the question of "open" vs. "class" individualized study situations, we propose to continue our communications course in the individualized instruction class group arrangement. We suggest further study to determine whether other experience would tend to confirm our findings.

APPENDIX

INDIVIDUALIZED INSTRUCTION: OPEN

QUARTER	NUMBER ENROLLED	NUMBER COMPLETED
Fall 1970	248	166
Winter 1971	71	43
Spring 1971	111	72
Fall 1971	210	139
Total	640	420

INDIVIDUALIZED INSTRUCTION: CLASSES

QUARTER	NUMBER ENROLLED	NUMBER COMPLETED
Fall 1969	221	178
Summer 1971	50	45
Winter 1972	105	85
Total	376	308

p (completions: classes) = .819
p (completions: open) = .656
Mean p = .716
z = 5.562

This observed difference in completion rates is significant at the .0001 level using

$$z = \frac{\frac{y_1}{n_1} - \frac{y_2}{n_2}}{\sqrt{\hat{p}\hat{q}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}, \text{ with } \hat{p} = \frac{y_1 + y_2}{n_1 + n_2}; \quad y_i = \text{No. completed}, \quad n_i = \text{No. enrolled}$$

Mendenhall and Reinmuth, Statistics for Management and Economics.

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